Neonatal Abstinence Syndrome: Inpatient and Outpatient Diagnosis

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Neonatal abstinence syndrome (NAS) has become an increasing, problematic, and concerning phenomenon in the United States.[1] NAS is a collection of withdrawal signs and symptoms experienced by neonates due to exposure in utero to illicit substances. The incidence has increased 3-fold in the past decade. Substances most often correlated with NAS include opiates, barbiturates, cocaine, caffeine, antihistamines, benzodiazepines, nicotine, marijuana, and benzodiazepines.[2]

Signs and Symptoms of Neonatal Withdrawal

Some symptoms of withdrawal may consist of high-pitched or excessive crying, increased muscle tone, poor feeding, jitteriness, skin excoriation, increased respiratory rate, and nasal flaring. Other symptoms that may be experienced include poor temperature regulation, mottling, vomiting, loose or watery stools, and, in extreme cases, seizures. Low birth weight and premature birth are also correlated findings of intrauterine substance exposure.[2] The Table presents a summary of newborn withdrawal symptoms. Initial withdrawal symptoms will present within the first 2 weeks of life.

The literature has shown that between 54% and 90% of infants born of substance-dependent mothers will experience NAS.[2] Recognition of NAS early in the newborn's life is important to reduce the duration of NAS symptoms, length of hospital stays, and lifelong sequelae. Literature supports the importance of early recognition and appropriate nursing care. An analysis of 547 infants with NAS demonstrated the importance of providing appropriate, evidence-based care to improve patient outcomes.

There are short- and long-term consequences due to NAS. Short-term consequences include symptoms of withdrawal. Appropriate referrals during the withdrawal period include occupational therapy and social services. These referrals are initiated most commonly during hospitalization. Long-term consequences of NAS include physical, mental, and psychological challenges that can produce lifelong disability. Early diagnosis and early intervention can reduce developmental delays in newborns with NAS.[3]

An instrument used to objectively assess and score the signs and symptoms of NAS is the Finnegan Neonatal Abstinence Scoring Tool (FNAST).[4] The FNAST provides a method for similar assessments between examiners and may be used for serial assessments to identify improvement or worsening of the infant's condition. In addition, FNAST may be used in both inpatient and outpatient settings to assist with NAS diagnosis. Limited information has been published on the FNAST's validity, but its reliability has been identified between examiners.

Additional comorbidities to consider in the event of NAS include neonatal exposures to sexually transmitted infections or intravenous drug use such as syphilis, chlamydia, gonorrhea, HIV, hepatitis B, and hepatitis C. Breast-feeding is not contraindicated unless the mother is HIV-positive status or continues to use illicit substances. Delayed motor development at 1 year of age has been noted in

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breast-fed infants whose mothers continue to smoke marijuana or consume alcohol.[2] Overall treatment of infants who suffer from NAS is largely supportive. When medications are prescribed to wean neonates from substances, specialist knowledgeable in substance abuse and NAS treatment should develop individualized treatment plans.

Conclusion

As maternal substance abuse increases, the incidence of NAS will continue to rise. It is pertinent to implement evidence-based practice nursing care for these infants, which includes early diagnosis, referral, and interventions. Assessing all newborns for NAS initially during hospitalization, and then again at the initial well-child exam improves opportunity for timely diagnosis. Nurse practitioners in primary care settings have the opportunity to work with all childbearing-aged females, including those currently pregnant, to promote prevention, recognition, and appropriate treatment of maternal substance abuse.

Table. Neonatal Abstinence Syndrome Signs During First 2 Weeks of Life

Excessive or high-pitched crying
Poor sleep
Hyperactive newborn reflexes
Tremors
Increased muscle tone
Myoclonic jerking
Seizures
Sweating
Vomiting
Frequent yawning
Skin mottling
Nasal stuffiness
Sneezing
Tachypnea
Excessive suckling
Poor feeding
Vomiting
Loose stools

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